

U.S. Department of Health and Human Services  
National Institutes of Health

Minutes of the Second Joint Meeting of the  
National Advisory Council on Alcohol Abuse and Alcoholism,  
National Advisory Council on Drug Abuse, and  
National Cancer Advisory Board

February 5, 2014  
National Institutes of Health  
Bethesda, Maryland

The National Advisory Council on Alcohol Abuse and Alcoholism, National Advisory Council on Drug Abuse, and National Cancer Advisory Board convened for their second joint meeting on February 5, 2014, at National Institutes of Health (NIH), Bethesda, Maryland. The councils met together initially in closed session at 8:30 a.m., chaired by Dr. Nora Volkow, Director, National Institute on Drug Abuse (NIDA), and Dr. Kenneth R. Warren, Deputy Director, National Institute of Alcohol Abuse and Alcoholism (NIAAA), for a review of Collaborative Research on Addiction at NIH (CRAN) applications. That session adjourned at 9:00. Chaired by Dr. Volkow and Dr. George Koob, Director of NIAAA, the open session convened at 9:15 a.m.

National Advisory Council on Alcohol Abuse and Alcoholism Members Present:

Carol Casey, M.D.  
Linda L. Chezem, J.D.  
Fulton T. Crews, Ph.D.  
Suzanne de la Monte, M.P.H., M.D.  
Marianne L. Fleury, B.S.  
Andres G. Gil, Ph.D.  
Paul Gruenewald, Ph.D.  
Sarah Weller-Mattson, Ph.D.  
Craig McClain, M.D.  
Robert Messing, M.D.  
Patricia Molina, Ph.D.  
Rajita Sinha, Ph.D.

National Advisory Council on Drug Abuse Members Present:

Anne Andorn, M.D.  
Laura Bierut, M.D.  
Regina Carelli, Ph.D.  
Nabila El-Bassel, D.S.W., Ph.D.  
Carl Hart, Ph.D.  
James Hildreth, Ph.D.  
Elizabeth F. Howell, M.D.  
Terry L. Jernigan, Ph.D.  
Thomas A. Kirk, Ph.D.  
Robert H. Lenox, Ph.D.

Kelvin Lim, M.D.  
Barbara J. Mason, Ph.D.  
Michael A. Nader, Ph.D.  
Marina Picciotto, Ph.D.  
John P. Rotrosen, M.D.

National Cancer Advisory Board Members Present (via telephone):  
Victoria L. Champion, Ph.D.  
Kevin J. Cullen, M. D. (attended face to face meeting)  
Beth Y. Karlan, M.D.  
Ms. Mary V. Lester  
Jonathan M. Samet, M.D., M.S.

Chairs: Nora Volkow, M.D., and George Koob, Ph.D., Kevin J. Cullen, M.D. (Acting)

National Institutes of Health Director: Francis Collins, M.D., Ph.D.

National Institute of Alcohol Abuse and Alcoholism (NIAAA) Director: George Koob, Ph.D.

National Institute on Drug Abuse (NIDA) Director: Nora D. Volkow, M.D.

National Institute of Alcohol Abuse and Alcoholism Deputy Director: Kenneth R. Warren, Ph.D.

National Institute on Drug Abuse Deputy Director: Wilson Compton, M.P.H., M.D.

NIAAA Executive Secretary: Abraham P. Bautista, Ph.D.

NIDA Executive Secretary: Mark Swieter, Ph.D.

NCI Acting Executive Secretary: Peter J. Wirth, Ph.D.

NIDA Senior Staff:

Will Aklin, Ph.D.; Ericka Boone, Ph.D.; Redonna Chandler, Ph.D.; Kevin Conway, Ph.D.; Joseph Frascella, Ph.D.; Mimi Ghim, Ph.D.; Marsha Lopez, Ph.D., M.H.S.; Joni Rutter, Ph.D.; Jack Stein, Ph.D.; Geetha Subramanian, M.D.; Betty Tai, Ph.D.; Susan Weiss, Ph.D.; Cora Lee Wetherington, Ph.D.

NIAAA Senior Staff:

Vivian B. Faden, Ph.D.; Ralph Hingson, Ph.D.; Robert Huebner, Ph.D.; Keith Lamirande; Gary Murray, Ph.D.; Antonio Noronha, Ph.D.

National Cancer Institute (NCI) Senior Staff: Deborah M. Winn, Ph.D.

Additional Participants:

Approximately 40 observers joined the meeting, including representatives of constituent groups, liaison organizations, and members of the general public.

## Open Session Call to Order and Introductions

Dr. Nora Volkow, Director, NIDA, called to order the second joint meeting of the National Advisory Councils of NIAAA, NIDA, and NCI in open session at 9:15 a.m. on Wednesday, February 5, 2014, and welcomed participants. Dr. Kenneth Warren, Deputy Director, NIAAA, introduced NIAAA's new director, Dr. George Koob, and Dr. Koob expressed appreciation for Dr. Warren's distinguished service as NIAAA's Acting Director over the previous 5 years.

## NIDA Director's Report

Dr. Nora Volkow observed that the joint council meeting provided a venue to interact and, in so doing, to advance the science and improve outcomes in both the treatment and prevention of substance use disorders. She noted that the mission of the CRAN Initiative is to enable strong collaboration and a framework to allow NIDA, NIAAA, and NCI to integrate resources and expertise to advance substance use, abuse, and addiction science research and public health outcomes. In the future 70% of CRAN funding will come from NIDA; 25%, NIAAA; 4%, NCI; and 1% other Institutes.

Dr. Volkow discussed the necessity for integrated research, highlighting the fact that many alcoholics take substances of abuse, and many abusers of the spectrum of drugs also drink alcohol. Importantly, comorbidity affects the progression of disease; research shows that the persistence of one drug when the other is left untreated frequently results in relapse in use of the other substance.

Dr. Volkow explained that certain recent functional-integration funding opportunity announcements (FOAs) relate to funds set aside for CRAN while others reflect integration between Institutes that do not use set-aside monies. One FOA addresses social media's role in obtaining epidemiology, demographic, and causality data for substance use (including alcohol) and addiction, and another relates to the use of social media in prevention and treatment interventions. Another FOA relates to gender differences that lead to different trajectories and phenotypes. An FOA has been issued to understand ways that changes in mental state due to substances, especially alcohol, lead to risky decisions related to HIV acquisition, transmission, and treatment adherence. Another FOA involves the mechanism of alcohol and stimulant co-addiction, and another focuses on studying the developing brain or brain areas that play significant roles in mediating emotional and motivated behavior in substance use and dependence. Dr. Volkow explained that addiction to alcohol, nicotine, marijuana, and cocaine is a developmental disease, and the earlier an individual takes a substance, the greater the likelihood of addiction. She stated that research also focuses on developing objective evidence on the negative effects of drugs on brain development.

The landscape of drug abuse in the United States is changing, in particular due to marijuana legalization. Recent data show that young people's alcohol use continues to decline (though much work remains to be done), and cigarette smoking has decreased significantly. Marijuana use, however, has risen significantly; for example, regular daily use is estimated at 6.5% among 12th graders. Dr. Volkow anticipates that alcohol and marijuana use will increase, thus necessitating an understanding of what drives the trajectories, how they combine to affect the brain, and the propensity for addictive behaviors or cognitive impairment, or both. Neuroscience research has shown, for example, that THC—the psychoactive component of cannabinoid—is not rewarding if cannabinoid CB1 receptors are lacking, and that CB1 receptors are necessary for alcohol to exert its maximally rewarding effects. Imaging studies reveal, on the other hand, that marijuana has an opposite effect. An understanding of the significance of these findings remains to be realized. Opportunities for integrated medications development also exist. For example, animal studies show that pregnenolone can interfere with cannabis intoxication. In the

absence of medications to treat marijuana addiction, it would be important to know whether pregnenolone-like compounds might treat marijuana, and alcohol, addiction.

Because alcohol and other drugs contribute significantly to the HIV epidemic, 30% of NIDA's budget supports HIV research-although this is an insufficient response, in Dr. Volkow's opinion. Seemingly contradictory evidence about alcohol's role in the progression of HIV underscores the need for functional integration in understanding the science.

According to Dr. Volkow, the greatest challenge is to prevent substance abuse disorders among young people. She stated that a sufficiently large prospective study is needed to develop unequivocal data on the effects of alcohol exposure on the adolescent brain with and without a combination of drugs. This design would reflect the nature of the developmental process. Though important as a start with limited funds, Dr. Volkow asserted that NIAAA's N-CANDA (National Consortium on Alcohol and Neurodevelopment in Adolescence) study is not sufficiently large or prospective to inform policy on the consequences of youth's exposure to these substances.

### **NIAAA Director's Report**

Dr. George Koob reviewed the knowledge base on adolescent drinking, noting that college students represent a high-intake, binge-drinking cohort of the population. Nearly 1 million high school students and 2 million 12 to 20 year olds consume five or more drinks at a frequency of six or more times each month. They are more likely to ride with a drinking driver, drive after drinking, never wear safety belts, carry weapons or guns, be bullied, be injured in a fight, be injured in a suicide attempt, be forced to have sex, have sex with six or more partners, have unprotected sex, and use marijuana, cocaine, or injected drugs. The epidemiology of underage drinking shows that fatal and single-vehicle crash risks for 16- to 20-year-old drivers are higher than for older drivers when compared to sober drivers in their respective age groups. The 5.6% of high school seniors who report drinking 15+ drinks on an occasion in the past 2 weeks are more likely to consume other drugs, report driving after drinking, and engage in other risk behaviors. Only a quarter of frequently intoxicated 16 year olds in a national survey were advised to reduce or stop drinking.

Key NIAAA programs that focus on adolescent drinking include NADIA (Neurobiology of Adolescent Drinking in Adulthood), N-CANDA (National Consortium on Alcohol and Neuro-Development in Adolescence), COGA (Consortium on the Genetics of Alcoholism), and Human Adolescent Grants. NADIA's (mainly) preclinical research has found that adolescent binge drinking increases proinflammatory innate immune genes, reduces adult behavioral flexibility, decreases adult forebrain cholinergic neurons, increases adult negative emotions through altered neuronal histone acetylation, and retains many adolescent-like phenotypes into adulthood. Just underway, N-CANDA is a prospective study with 800 human subjects focused on the effects of alcohol exposure on the trajectory of adolescent brain development.

Science has shown that effective treatments for alcohol use disorders include family therapy, motivational interviewing, cognitive behavioral therapy (CBT), mutual help groups, and aftercare and continuing care, and that their effectiveness improves in combination. Research is needed to learn about the efficacy of pharmacotherapy for adolescents and of screening and brief interventions with adolescents in primary care treatment, and to gain an understanding of for whom treatment works.

Dr. Koob devoted the balance of his presentation to the interface between alcohol and marijuana in the withdrawal/negative-affect stage—the negative emotional states associated with the development of alcoholism and addiction—focusing on stress systems in the brain and dysfunction in behavior. As context, research in the mid-1990s found marijuana and ethanol to be similarly addictive. Recent research reveals the possibility of modulating the brain levels of two endocannabinoids (neuro-modulators) by blocking the enzymes that inhibit them. By blocking monoacylglycerol lipase and pharmacologically increasing the amount of 2-arachidonoylglycerol in the brain of rats, it is possible to reverse the stress-like effects of alcohol withdrawal. Similarly, blocking fatty acid aminohydrolase (FAAH) increases anandamide in the brain. This work shows that in alcohol dependence there is an important dysregulation of the endocannabinoid system in the central nucleus of the amygdala, an area of the brain essential for emotional processing.

Dr. Koob reported on research that showed that when animals in a particular environment were exposed to electric foot shock and the animals froze, during extinction of that response there was an increase in anandamide in the basolateral nucleus of the amygdala. The scientists hypothesize that this increase represents a response of the brain to a stressful situation that returns the brain to homeostasis. Perhaps, then, blocking the degradation of this endocannabinoid could facilitate CBT for posttraumatic stress disorder. Dr. Koob emphasized the correspondence in the addiction cycle between the rewarding effects of drugs of abuse and activating the system in that binge intoxication stage, and he noted the need to understand the interactions of alcohol and marijuana in the addiction process.

Dr. Koob concluded by stating that CRAN funding opportunities will involve social media and will offer R21 and ROI awards for adolescent treatment. He stated that collaborative prospective research will help to inform the public of the effects on adolescents who abuse alcohol and marijuana together.

Discussion. In response to a question from Dr. Marina Picciotto, Dr. Adolf Pfefferbaum stated that N-CANDA enrolls individuals prior to their experiencing significant alcohol or other substance abuse, including tobacco, and also prior to sports injuries, which interests investigators regarding their possible effect on development. Dr. Laura Bierut noted that electronic cigarette use is rising, particularly among adolescents. Dr. Volkow underscored the need to study adolescents' exposure to multiple substances.

Ms. Mimi Fleury inquired whether the factors that protect teenagers from experiencing the negative consequences of alcohol and marijuana have been studied, and whether research has been conducted on the reversibility of brain damage due to binge drinking. Dr. Volkow responded that NIDA is interested in pursuing advances in neuroscience to understand resilience factors and to implement them in prevention activities. Dr. Koob stated that NIAAA hopes to pursue work related to studies that show that a gene variant of FAAH protects in extinction of fear memories. Dr. Crews added that understanding adolescent brain development requires considerable research; much of this work relates to epigenetic types of changes in genes. He stated that in utero environment, early environment, conduct disorder, and other complex influences confound human studies. It is possible to sort out drug effects in animals, but not humans. An understanding of animal brain development after birth is lacking until adulthood. NADIA is working on long-term changes after adolescent exposure and now is conducting reversible preventive experiments, including exercise. Dr. Volkow commented that a value of animal models is the ability to test specific hypotheses in a way impossible with humans; the ability to translate one to the other advances knowledge. She noted that the BRAIN Initiative supports efforts to understand brain development. Dr. Regina Carrelli called attention to the need for better animal models for translational research. Dr. Koob stated the need for NIAAA and NIDA to standardize certain procedures, and assured that tool developers involved in CRAN projects will understand the complexity required.

Dr. Robert Messing urged that the CRAN Initiative access NIH's Psychiatric Genetics Consortium's developing genetic database and that it address mental illness, comorbidity, and genetic risk for drug addiction. Dr. Volkow stated that this effort is on NIDA's radar. Dr. Joni Rutter, NIDA, noted the importance of pursuing access to Consortium resources, including DNA and other biological materials. Dr. Messing stated the importance of knowing the types of phenotypic data collected and whether the group deals with other effects of substance abuse. Dr. Koob will follow up with NIMH Director Thomas Insel. Dr. Bierut noted that the Consortium's challenges include how to compile the data. NIMH studies have measured few (if any) substance use indicators, and addiction studies rarely have incorporated measures of mental disorders. Dr. Bierut suggested using common measures from the Phoenix Project.

#### NIH Director's Remarks

Dr. Francis Collins expressed satisfaction with the implementation of the plan to bring NIAAA, NIDA, and parts of NCI together functionally to conduct research on addiction. He observed that this is an interesting and exciting time at NIH as the scientific pace intensifies and unanticipated findings emerge. Dr. Collins noted that the highlight of his most recent semi-weekly blog was the announcement that 10 pharmaceutical companies have established a 50/50 cost-sharing partnership with NIH in an unprecedented approach to identify new targets for drug development, initially for Alzheimer's disease, type II diabetes, rheumatoid arthritis, and lupus. A deluge of discoveries is emerging from new approaches, including genomics, to identify molecular pathways involved in disease. The partnerships will focus on deciding which new insights are worthy of big gambles by pharmaceutical companies. NIH anticipates expanding the list as confidence develops about the collaborations.

Dr. Collins observed the appropriateness of the three Councils jointly considering how to allocate NIH resources in the context of such issues as the epidemic of heroin addiction, concerns about legalizing marijuana, and marijuana's possible connection to cancer. No data exists to determine whether lung cancer risks from marijuana are greater or lesser than from tobacco, because research has been illegal in this area in the past. Addictions are connected in terms of pathways and cross-addicted persons, and alcohol remains at the top of the list for which ideas and solutions are needed.

NIH has lost 25% of its purchasing power over the past decade, and researchers are stressed. Dr. Collins asked Council members to take an active role in assessing whether NIH has optimally administered its resources and endorsed the correct priorities, and in advising on program needs and gaps to consider.

Discussion. Dr. Collins endorsed Dr. Terry Jernigan's assertion that it is necessary to advance prevention and to collaborate on mental health and other developmental issues in order to understand the early dynamics that evolve into substance use disorders in children and adolescents. Work by the 14 Institutes involved in the Neuroscience Blueprint should help devise ways to cross boundaries. Dr. Volkow suggested that, when resources become available, NIH might consider these matters for incorporation into the BRAIN Initiative. Dr. Collins responded to Dr. Fulton Crews's inquiry that new resources for research on the interactions of marijuana and alcohol will be difficult to identify, and likely will depend on congressional decisions. NIH is considering appropriate strategies. Despite resource constraints, Dr. Collins observed, NIH remains the largest supporter of biomedical research in the world.

Marijuana Policy Research Program: Understanding the Impact of a Rapidly Shifting Environment

Dr. Marsha Lopez, NIDA, presented an overview of recent marijuana research across NIH. The percentage of students using marijuana daily has remained stable over time with minor increases in recent years, but over the past decade marijuana's potency has increased disproportionately. This finding calls into question the value of prior marijuana studies and therefore necessitates new research.

Marijuana policy has shifted dramatically over the past 40 years. To date 20 states and the District of Columbia have legalized medical marijuana, and 2 states have legalized recreational use. Regulations regarding medical use vary considerably, and it is unknown how specific policies affect marijuana use, attitudes, and outcomes. In the past few years, however, data has shown a sharp decline in 12th graders' perception of harm regarding marijuana and a gradual increase in its use.

NIDA has awarded nine research grants in recent years on the impacts of medical marijuana policies at multiple governmental levels on crime, cannabis and other drug use/misuse/abuse, alcohol dependence, and other health indicators; impact on an HIV+ population; user/prescriber relationships; changes in attitudes, beliefs, and usage among adolescents and young adults; and impacts on pain relief, mental and physical functioning, employment, legal functioning, and outcomes regarding health service use. Papers emerging from the earliest grants have found, in a cross-sectional analysis, no correlation between crime and the concentration of medical marijuana outlets; longitudinal analysis continues. In response to Washington State and Colorado's legalization of marijuana for recreational use, NIDA awarded \$2 million in administrative supplements for six projects in NIDA's portfolio and two in NIAAA's portfolio. These awards cover a broad variety of topics ranging from polysubstance use in terms of complementarity versus substitution, drugged driving and morbidity or mortality, HIV risk behavior, prevention issues, effect of legalization on price/tax/licensing/revenue, crime, spillover effects into alcohol use and alcohol-related harms, information on social networking sites that indicate the impact on the trajectory of attitudes, intentions, and behaviors related to marijuana, and others.

Both variations in policy across jurisdictions and the changing climate impact attitudes, initiation, levels of use, and other bidirectional effects. Policy affects use and use affects policy, and untangling the relationships represents a challenge. Dr. Lopez stated that NIDA has requested applications for a \$3 million funding set-aside in FY 2015 to examine health outcomes of marijuana use and to accelerate the research findings to reflect the current situation. She asserted the importance of evaluating the consequences of marijuana use in order to state with certainty how different levels of marijuana involvement affect education, the labor force, and public health generally. (For more information on NIH marijuana research, access [www.drugabuse.gov/marijuana-research-nida](http://www.drugabuse.gov/marijuana-research-nida).)

Discussion. Dr. Carl Hart raised the issues of whether the perception of harm can predict behavior; the negative characterization of increasing concentrations of THC confiscated on the street, despite lack of a good understanding of whether people titrate marijuana, as they do commonly with alcohol; and disproportionate incarceration rates for marijuana offenses by Blacks. Dr. Lopez asserted the need for research on the first two issues as well as research on policies that affect the third. Dr. Volkow added that prospective studies show that perception of risk indeed can predict future use—an important reason to understand prevention interventions that work best. She stated that evidence also exists to show that the higher the potency of cannabinoid, the worse the outcomes. Moreover, data show that the concentration of THC in plasma has been rising, another area that needs more research. Dr. Volkow also asserted the need to focus on the potential adverse effect of incarceration vis-a-vis their outcomes.

Dr. Barbara Mason suggested that various facets of marijuana use across the life span warrant research, including, for example, residents in assisted living facilities, many of whom use medical marijuana;

young adults who have smoked since their early teens and in their 20s have less than optimal executive functioning; and Baby Boomers who have smoked all their lives.

Dr. Michael Nader raised the issue of whether, if availability does not increase the prevalence of individuals who meet DSM-5 criteria for substance dependence in states that have legalized marijuana, legalization might be a viable scenario. He suggested that legalization would remove the temptation for individuals to use substances clandestinely and perhaps in greater quantities, as young people do when they binge drink.

Dr. Bierut commented on the need for awareness that legalization enables business concerns to market marijuana, and she predicted an increase in use and addiction. Dr. Warren stated that NIAAA continues to monitor the effects of underage drinking, whose harms (traffic fatalities, for example) decrease when a young person becomes old enough to make legal alcohol purchases. In areas with a drinking age of 18, friends networks supply alcohol to even younger individuals; this effect is seen less in areas with a drinking age of 21. These scenarios are well studied. Dr. Crews added that in the past 50 years, a changed perception of smoking's link to cancer and heart disease has caused people to smoke less. He suggested the need for the heart and cancer institutes to track systemic disease. Dr. Debbie Winn responded that no specific CNI initiatives are ongoing currently, but the Institute's epidemiology groups have long focused on this issue. She pointed to the serious methodological challenge of studying diseases of long latencies, illegal substances, and trends over the life course.

Dr. Paul Gruenewald noted a study showing that a decline in adult-hosted parties in homes for young people 18 to 20 years old has led to less heavy alcohol use and higher perceived risks related to alcohol.

#### CRAN Training Priorities

Dr. John Krystal, Chair, Psychiatry Department, Yale University School of Medicine, described the proceedings of a workgroup meeting in November 2013 on CRAN training. Participants included several NIDA, NIAAA, and NCI staff, and NIAAA and NIDA grantees. The workgroup considered the challenges of addressing missed synergy and gaps following the functional integration of NIAAA and NIDA by Centers with NIAAA and NIDA research funding but limited cross-Institute research, and Centers with NIAAA and NIDA training but limited cross-Institute training. A mapping of NIDA, NIAAA, and NCI's T32 programs across the United States reveals considerable overlap, which represents opportunities for future collaborative research training. Dr. Krystal stated that academic research Centers have a wide range of capacities to achieve synergy in a thoughtful way with joint NIAAA and NIDA mentors.

The workgroup meeting participants suggested the following steps toward solutions: Institute leadership convey to investigators and reviewers that cross-substance research and training is a priority, and workshops and symposia convey this new priority to the field and elicit input from the field on opportunities for training and research. Participants raised issues regarding T32 opportunities and concerns about synergy under CRAN including the continued need for overall workforce development in addiction; concern about increased administrative burden from consolidating programs at these sites; missed opportunities in Institute-specific training missions; revision of T32 programs to retain strength but enhance synergies, looking for opportunities with sites that have both NIAAA and NIDA T32 programs to achieve such synergies; T32 programs created to focus on comorbidity and cross-substance issues; encouragement of inclusion of faculty with cross-addiction interests; and support CRAN priorities as a research track within T32 programs. Workgroup participants discussed additional mechanisms to promote career development in light of CRAN priorities, including career awards to support re-tooling

(K07) or sabbaticals (F33) for cross-Institute research; potentially new R mechanisms to prime research in desired areas; and R25s to develop curricula for cross-Institute training.

Discussion. Dr. Krystal responded to a question from Dr. Koob that communicating the Institutes' CRAN priorities to the study sections that review training grants would be a useful strategy. Dr. Koob stressed the importance of not permitting review committees to discount the value of collaboration in research. Dr. Patricia Molina urged changing the language of the RFA and ways in which applicants respond.

#### FY2014 Training Opportunities Concept

Dr. Lorraine Gunzerath, NIAAA, requested guidance from Council members on a proposed FOA for administrative supplements to support additional training slots for 1-2 years at current NIAAA-, NIDA-, or NCI-funded T32 programs. The slots would provide training opportunities relevant to the CRAN mission: basic, clinical, health services, policy, or epidemiology research focused on multiple substances, polysubstance abuse, and/or comorbidity.

Discussion. Dr. Crews encouraged taking a public health approach to research with a polysubstance focus. Dr. Picciotto recommended permitting maximum flexibility in the topic areas to be targeted. She endorsed the 1- to 2-year duration of the stipend. Dr. Suzanne de la Monte suggested making awards to people at later stages in their training who may better understand the human dimension. Dr. Messing observed that the short duration of the stipends may inhibit the numbers of good candidates who respond. Dr. Koob concurred and suggested that training be increased to a fourth year.

#### FY2015 Adolescent Substance Abuse Concepts

##### *Research Aimed at Novel Behavioral Targets to Improve Adolescent Substance Abuse Treatment*

Dr. Will Aklin, NIDA, proposed an FOA that would support research to develop and test novel behavioral and/or combined behavioral/pharmacologic treatments that target and modulate behavioral process and their associated biological underpinnings in alcohol, tobacco, other drug, or polysubstance-abusing adolescent populations. Targeted interventions would focus on specific behavioral mechanisms (e.g., impulsivity, delay discounting, risk-taking propensity, sensation and novelty seeking, distress tolerance) shown to be related to treatment dropout, relapse, and other outcomes.

Discussion. Dr. Aklin confirmed Dr. Jernigan's impression that the FOA would target such psychometric constructs as impulsivity or risk-taking, adding that the idea of the research would be to focus the content and measured outcomes, and examine the extent to which these constructs change during the course of treatment. He pointed out that some constructs are less well understood than others, and thus, would require more preliminary data, perhaps via high-yield, high-reward, high-risk studies."

##### *FY2015 Adolescent Treatment Concepts: Pragmatic Substance Use Treatment Interventions*

Dr. Geetha Subramanian, NIDA, explained that health professionals have lacked brief, validated, simple-to-use, comprehensive assessment tools and evidence-based interventions for adolescent-onset substance use that fit well into the workflow and staffing patterns at their settings. Research has been piecemeal in the past, generally conducted on a single substance, and findings have not been well adopted in treatment settings. Dr. Subramanian proposed an FOA to develop tailored, user-friendly treatments and to integrate pragmatic interventions into practice in a way that is usable and testable.

She stated that the FOA is anticipated to stimulate the next step in research on Screening, Brief Intervention, and Referral to Treatment (SBIRT) for youth. Dr. Subramanian stated the hope that the proposals will either extend providers' outreach using technology or by incorporating technology vis-a-vis electronic health records.

Discussion. Dr. Crews observed that clinical conferences have been held on best treatment practices and SBIRT for many years, but adolescents are often different from adults. One successful intervention for alcohol is family-type therapy; perhaps SBIRT for the family may be useful. Unlike adults, adolescents are in a somewhat more controlled environment, and including parents in the intervention activity has had a greater impact than group therapy for adolescents. Dr. Volkow endorsed these research aims for a variety of disorders, citing the need for far more research than currently fundable.

Dr. Pfefferbaum stated that the N-CANDA study has particular value regarding many of the concepts discussed during the meeting. He suggested that other Institutes join and contribute to improving adolescent health. He stated that sports injuries (such as concussion) may place adolescents at risk for developmental problems; obesity may be seen as a behavioral disorder, regarding which the National Institute of Diabetes and Digestive and Kidney Disease (NIDDK) might become involved; and tobacco use in adolescence would be an appropriate area for NCI buy-in. Dr. Pfefferbaum urged Dr. Collins to consider these issues in contemplating future directions for the BRAIN Initiative. Dr. Volkow endorsed his remarks, noting that N-CANDA research (especially at ten times the financial support) would be highly advantageous, given that a wide variety of chronic diseases begin with behavioral disorders.

#### Council Discussion

Dr. Molina explained that she chairs NIDA's National Hispanic Science Network on Drug Abuse (NHSN), and that NIAAA also has contributed support to many activities. She expressed the need for increased awareness about the critical need to foster development of underrepresented minorities in the field, both by attracting them into a career and by promoting development of professional skills that will enable them to become leaders in the field. Dr. Volkow stated that Dr. Carl Hart has volunteered to form a group of Council members and external investigators to devise effective strategies. Dr. Warren asserted that reversing minority underrepresentation has been a high priority for NIAAA, which also has supported other minority and disparity networks.

Dr. Elizabeth Howell identified the need for NIDA, NIAAA, and NCI to help researchers on academic tracks to learn more about clinical issues regarding drug addiction and alcohol disorders, and vice versa. Dr. Regina Carrelli and Dr. Anne Andorn each described successful programs that convened clinicians with basic researchers at multiple levels of training. Dr. Molina explained that the broadly diversified NHSN emphasizes this cross-fertilization and asserted the need to broaden interprofessional education. Dr. Koob noted his and Dr. Volkow's support for such a focus.

Ms. Fleury stated that her organization brings NIAAA's and NIDA's research, after translation into lay terms, into the community via "A Parent's Guide for the Prevention of Alcohol, Tobacco, and Other Drug Abuse." This publication has spread in grassroots fashion nationwide; more than 1.9 million copies have been distributed 36 states and four countries. She asserted the need for a focus on prevention and stated her interest in learning how alcohol and other drugs affect young brains.

**Adjournment**

The meeting adjourned at 12:30 p.m.

**CERTIFICATION**

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

For NIAAA:

s/s

George Koob, Ph.D.  
Director  
National Institute on Alcohol Abuse and Alcoholism  
and  
Chairperson  
National Advisory Council on Alcohol Abuse and Alcoholism

s/s

Abraham P. Bautista, Ph.D.  
Executive Secretary  
National Advisory Council on Alcohol Abuse and Alcoholism  
National Institute on Alcohol Abuse and Alcoholism

For NIDA:

s/s

Nora Volkow, M.D.  
Director  
National Institute on Drug Abuse  
and  
Chairperson  
National Advisory Council on Drug Abuse

s/s

Mark Swieter, Ph.D.  
Executive Secretary  
National Advisory Council on Alcohol Abuse  
National Institute on Drug Abuse

For NCI:



Acting Chair  
National Cancer Advisory Board  
National Cancer Institute

s/s

Peter J. Wirth, Ph.D.  
Acting Executive Secretary  
National Cancer Advisory Board  
National Cancer Institute